Idaho State University

Catalog Year 2023-2024
AAS, Energy Systems Mechanical Engineering Technology

(For internal use only)
☒ *No change*
☐ *UCC proposal*

A Major Academic Plan (MAP) is one way to complete a degree in a set number of semesters. The *example* below is only one strategy. Actual plans for individual students will vary based on advisor recommendations and academic needs. Official Program Requirements including Major, General Education, Electives, and university requirements (see pg.2) are based on Catalog Year.

Course Subject and Title	Cr.	Min. Grade	*GE, UU or UM	**Sem. Offered	Prerequisite	Co-Requisite
Semester One						
GE Objective 1: ENGL 1101 Writing and Rhetoric I	3	C-	GE		Appropriate placement score	
ESET 0100: Engineering Technology Orientation **AND** ESET 0100L: Engineering Technology Orientation Lab; **OR** ESET 0162: Industrial Safety and Regulations	2	C-		F, S, D F, S, D F, D		
ESET 0118: Industrial Maintenance Mechanic I	2	C-		F, D		
ESET 0118L: Industrial Maintenance Mechanic I Lab	1	C-		F, D		
ESET 0123: Mechanical Power Transmission I	2	C-		S, D		
ESET 0123L: Mechanical Power Transmission I Lab	2	C-		S, D		
ESET 0140: Applied Technical Intermediate Algebra (**recommended**); **OR** MATH 1143: College Algebra **AND** MATH 1144: Trigonometry; **OR** MATH 1147: College Algebra and Trigonometry	5	C-		F, S, D		
Total	17					
Semester Two						
TGE 0159: Internship Strategies	1	C-		D		
ESET 0119: Industrial Maintenance Mechanic II	2	C-		S, D		
ESET 0119L: Industrial Maintenance Mechanic II Lab	1	C-		S, D		
ESET 0121: Basic Electricity and Electronics	4	C-		F, S		
ESET 0121L: Basic Electricity and Electronics Lab	3	C-		F, S		
ESET 0125: Introduction to Structural Welding	1	C-		S, D		
ESET 0126: Intro to Mech Drafting and CAD	1	C-		S, D		
ESET 0127: Mechanical Power Transmission II	2	C-		S, D		
ESET 0127L: Mechanical Power Transmission II Lab	2	C-		S, D		
Total	17					
Semester Three						
GE Obj. 2: COMM 1101: Fundamentals of Oral Communication	3	C-	GE	F, S		
GE Obj. 5: PHYS 1101 and PHYS 1101L **OR** CHEM 1100: Concepts of Chemistry	4	C-	GE	F, S		
GE Obj. 3: Choose 3 credits from the following: MATH 1143: College Algebra; **OR** MATH 1147: College Algebra and Trigonometry; **OR** MATH 1153: Statistical Reasoning; **OR** MATH 1160: Survey of Calculus; **OR** MATH 1170: Calculus 1	3-5	C-	GE	F, S		
ESET 0122: Electrical Systems & Motor Ctrl Theory	3	C-		F, S, D	ESET 0121, ESET 0121L	ESET 0122L
ESET 0122L: Electrical Systems & Motor Ctrl Theory Lab	1	C-		F, S, D	ESET 0121, 0121L, or permission	ESET 0122
Choose a minimum of 2 Credits from the following: ESET 0117: Intro to Industrial Thermal Systems **AND** ESET 0117L: Intro to Industrial Thermal Systems Lab; **OR** ESET 0220: Thermal Cycles and Heat Transfer	2-3	C-		F, D		
Total	16-19					
Semester Four						
GE Obj. 6: TGE 1257 **(Recommended)**	3	C-	GE			
ESET 0244: Rotating Equipment and Millwright Maint	4	C-		S, D	ESET 0127 or permission	ESET 0244L
ESET 0244L: Rotating Equipment and Millwright Maint Lab	3	C-		S, D	ESET 0127 or permission	ESET 0244
ESET 0245: Industrial Thermal Systems	2	C-		F, D	ESET 0117 or ESET 0220	
ESET 0245L: Industrial Thermal Systems Lab	1	C-		F, D		ESET 0245
ESET 0246: Materials and Metallurgy	2	C-		F, D		
Total	15					
Semester Five						
ESET 0239: Pumps, Valves and Fluid Flow	5	C-		F, D		
ESET 0239L: Pumps, Valves, and Fluid Flow Lab	4	C-		F, D		
ESET 0242: Practical Process Measurements and Control	2	C-		F, D	ESET 0122 or permission	
ESET 0243: Hydraulic and Pneumatic Power	2	C-		S, D		ESET 0243L
ESET 0243L: Hydraulic and Pneumatic Power Lab	2	C-		S, D		ESET 0243
Total	15					

*GE=General Education Objective, UU=Upper Division University, UM= Upper Division Major
**See Course Schedule section of Course Policies page in the e-catalog (or input F, S, Su, etc.)

2023-2024 Major Requirements	64-65 CR
MAJOR REQUIREMENTS	
ESET 0100: Engineering Technology Orientation **AND** ESET 0100L: Engineering Technology Orientation Lab; **OR** ESET 0162: Industrial Safety and Regulations	2
ESET 0117: Intro to Industrial Thermal Systems **AND** ESET 0117L: Intro to Industrial Thermal Systems Lab; **OR** ESET 0220: Thermal Cycles and Heat Transfer	2-3
ESET 0118: Industrial Maintenance Mechanic I	2
ESET 0118L: Industrial Maintenance Mechanic I Lab	1
ESET 0119: Industrial Maintenance Mechanic II	2
ESET 0119L: Industrial Maintenance Mechanic II Lab	1
ESET 0121: Basic Electricity and Electronics	4
ESET 0121L: Basic Electricity and Electronics Lab	3
ESET 0122: Electrical Systems & Motor Ctrl Theory	3
ESET 0122L: Electrical Systems & Motor Ctrl Theory Lab	1
ESET 0123: Mechanical Power Transmission I	2
ESET 0123L: Mechanical Power Transmission I Lab	2
ESET 0125: Introduction to Structural Welding	1
ESET 0126: Intro to Mech Drafting and CAD	1
ESET 0127: Mechanical Power Transmission II	2
ESET 0127L: Mechanical Power Transmission II Lab	2
ESET 0140: Applied Technical Intermediate Algebra	5
ESET 0239: Pumps, Valves and Fluid Flow	5
ESET 0239L: Pumps, Valves, and Fluid Flow Lab	4
ESET 0242: Practical Process Measurements and Control	2
ESET 0243: Hydraulic and Pneumatic Power	2
ESET 0243L: Hydraulic and Pneumatic Power Lab	2
ESET 0244: Rotating Equipment and Millwright Maintenance	4
ESET 0244L: Rotating Equipment and Millwright Maintenance Lab	3
ESET 0245: Industrial Thermal Systems	2
ESET 0245L: Industrial Thermal Systems Lab	1
ESET 0246: Materials and Metallurgy	2
TGE 0159: Internship Strategies	1

GENERAL EDUCATION OBJECTIVES Satisfy Objectives 1,2,3,4,5,6 (7 or 8) and 9		36 cr. min
1. Written English (6 cr. min)	ENGL 1101	3
2. Spoken English (3 cr. min)	COMM 1101	3
3. Mathematics (3 cr. min)	Recommended by Dept	3-5
4. Humanities, Fine Arts, Foreign Lang. **(2 courses; 2 categories; 6 cr. min)**		
5. Natural Sciences **(2 lectures-different course prefixes, 1 lab; 7 cr. min)**		
PHYS 1101/1101L or CHEM 1100		4
6. Behavioral and Social Science **(2 courses-different prefixes; 6 cr. min)**		
TGE 1257 (Recommended)		3
One Course from EITHER Objective 7 OR 8		**(1 course; 3 cr. min)**
7. Critical Thinking		
8. Information Literacy		
9. Cultural Diversity		**(1 course; 3 cr. min)**
General Education Elective to reach 36 cr. min. **(if necessary)**		
Total GE		**16-18**

Undergraduate Catalog and GE Objectives by Catalog Year
http://coursecat.isu.edu/undergraduate/programs/

MAP Credit Summary	**CR**
Major	64-65
General Education	16-18
Upper Division Free Electives to reach 36 credits	
Free Electives to reach 120 credits	
TOTAL	80-83

Graduation Requirement Minimum Credit Checklist	**Confirmed**
Minimum 36 cr. General Education Objectives (15 cr. AAS)	**X**
Minimum 15 cr. Upper Division in Major (0 cr. Associate)	
Minimum 36 cr. Upper Division Overall (0 cr. Associate)	
Minimum of 120 cr. Total (60 cr. Associate)	**X**

Advising Notes

MAP Completion Status (for internal use only)

	Date
OAA or COT:	PJ 3/15/2023

Complete College American Momentum Year
Math and English course in first year-Specific GE MATH course identified
9 credits in the Major area in first year
15 credits each semester (or 30 in academic year)
Milestone courses

Form Revised 6.16.2021